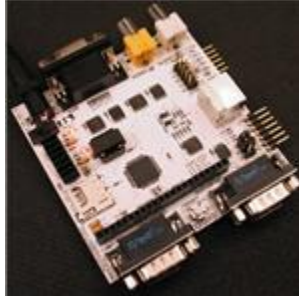


Nurve Networks

XGS AVR 8-Bit Development System



GENERAL OVERVIEW

The XGS AVR 8-Bit is the ultimate fusion of art and science (check out videos at end of page). Developed to be a very competitive entry/midrange development kit for the Atmel MEGA AVR 644 processor with 64K FLASH, 4K SRAM, and running at 28+ MIPS. The kit was designed with the philosophy that you don't want to waste time trying to figure things out. This kit takes you step by step, saving you time, so you can learn quickly and have fun doing it!

The XGS AVR 8-Bit Development Kit is based on Atmel's MEGA AVR644 processor and is a highly integrated development kit for exploring the MEGA AVR processors in a fun and engaging way! If you're interested in AVR processors and want to learn more or just want to learn about microcontrollers in general this is a great way to do it. Designed for students, engineers, and professionals, the XGS AVR 8-Bit uses graphics, games, and media application to explore and learn about the very powerful MEGA AVR 644 processor (and in general the entire MEGA AVR line of processors in the process). The kit comes with everything you need to get up and running in moments, no additional purchases are necessary -- everything is "in the box".

Also included in the kit is the printed book "Inside the XGS AVR 8-Bit" (Download Table of Contents below). This enormous user manual and programming guide takes you from opening the box, installing the tool chain, to developing applications yourself in no time! The book begins with discussions of the hardware of the XGS AVR 8-bit for those more technically minded, then the book traverses the many APIs and libraries we have developed for you to program the XGS AVR 8-Bit yourself. All libraries are written in easy to understand C/C++ with ASM drivers for heavy lifting like graphics and I/O. Fear not though, there are numerous examples and demos that show how to use the XGS AVR 8-Bit to its fullest potential included graphics, sound, games, keyboard, SD interface, serial communications and much more.

And if you want to make games with it, it's no secret that these XGS systems are designed with that in mind and the XGS AVR 8-Bit is no exception! It's the perfect little development platform to create 8-bit games that you can put together in a matter of hours to days with our APIs and examples.

PACKAGE INCLUDES

- XGS AVR 8-Bit completely assembled.

- 350+ page printed manual covering hardware, software, and numerous programming tutorials (sample at end of page).
- Atmel AVR ISP MK II programmer + USB cable.
- 9V USA compliant wall adapter power supply.
- A/V cable.
- XGS game controller.
- DB9 PC serial port to XGS header converter.
- DVD-ROM with numerous examples and complete driver library Including; Graphics, Sound, Keyboard, SD card, Serial Comms, Mechatronics, and lots more.

TECHNICAL SPECS

The core of the dev kit is the Atmel AVR644P processor. This processor was chosen since its the top of the line in the Atmel 8-Bit MEGA line as well as it features the best mix of memory and speed (64K FLASH, 4K SRAM, 20+ MIPS). The XGS AVR 8-Bit throttles the processor to the edge by overclocking to 28+ MHz to support high speed NTSC signal generation. You can always slow the processor down by using its internal clock or by changing the external oscillator. PAL fans will be happy to know that you can replace the external oscillator with a multiple of 4.43Mhz oscillator as well and create fully compliant PAL video drivers. However, PAL fans can also use the VGA drivers until more support for PAL is developed.

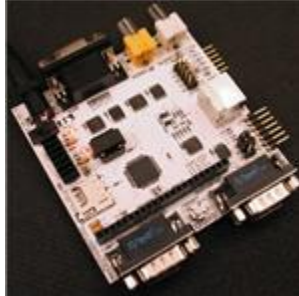
The XGS AVR 8-Bit is designed to be an AVR dev kit first and foremost, but the design has been optimized for graphics, sound, and media exploration. The NTSC/PAL signal is generated by software on the AVR, but with "color helper hardware" that generates the complex composite chroma signal. Thus, with our assembly language graphics drivers, you simply write your code in C/C++ and make calls to the API and don't worry about it. Its all handled in interrupts. VGA is supported as well with a complete set of drivers, so can write more professional applications that display real-time data and other graphical information.

The XGS AVR 8-Bit has a full arsenal of I/O devices and features including:

- Atmel MEGA AVR 644P processor with 64K FLASH / 4K SRAM running at over 28 MIPS!
- 500mA max power 3.3/5V dual supplies.
- VGA output with 2x2x2 RGB.
- NTSC/PAL with color generation helper hardware (PAL support limited).
- Micro SD card interface.
- Serial port for control and PC interfacing.
- ISP and JTAG programming ports.
- PS/2 keyboard/mouse port.
- Expansion port header exporting numerous I/O, power, and signal lines for experimentation and mechatronic exploration.
- Exported SPI and I2C buses.
- Two game controller ports (Nintendo DB9 compatible).

Nurve Networks

XGS PIC 16-Bit Development System



GENERAL OVERVIEW

The XGS PIC 16-Bit is the ultimate fusion of art and science (check out the videos at the end of page). Developed to be a very competitive entry/midrange development kit for Microchip's new 16-Bit PIC24 processor with 256K FLASH, 16K SRAM, and running at over 40 MIPS. The kit was designed with the philosophy that you don't want to waste time trying to figure things out. This kit takes you step by step, saving you time, so you can learn quickly and have fun doing it!

The XGS PIC 16-Bit Development Kit is based on Microchip's new 16-Bit PIC24 series processor (PIC24HJ256GP206) and is a highly integrated development kit for exploring the PIC 16-Bit processors in a fun and engaging way! If you're interested in PIC processors and want to learn more or just want to learn about microcontrollers in general this is a great way to do it. Designed for students, engineers, and professionals, the XGS PIC 16-Bit uses graphics, games, and media applications to explore and learn about the very powerful new 16-Bit PIC processor (and in general the entire PIC line of processors from 8-32 bit in the process). The kit comes with everything you need to get up and running in moments, no additional purchases are necessary -- everything is "in the box".

Also included in the kit is the printed book "Inside the XGS PIC 16-Bit" (Download Table of Contents below). This enormous user manual and programming guide takes you from opening the box, installing the tool chain, to developing applications yourself in no time! The book begins with discussions of the hardware of the XGS PIC 16-bit for those more technically minded, then the book traverses the many APIs and libraries we have developed for you to program the XGS PIC 16-Bit yourself. All libraries are written in easy to understand C/C++ with ASM drivers for heavy lifting like graphics and I/O. Fear not though, there are numerous examples and demos that show how to use the XGS PIC 16-Bit to its fullest potential included graphics, sound, games, keyboard, SD interface, serial communications and much more.

And if you want to make games with it, it's no secret that these XGS systems are designed with that in mind and the XGS PIC 16-Bit is no exception! It's the perfect development platform to create Super Nintendo quality 16-bit games that you can put together in a matter of hours to days with our APIs and examples. The XGS PIC 16-Bit takes homebrew game development to a whole other level with 40+ MIPS of 16-Bit processing power and full mathematics support!

PACKAGE INCLUDES

- XGS PIC 16-Bit completely assembled.
- 350+ page printed manual covering hardware, software, and numerous programming tutorials (sample at end of page).
- Microchip Pickit 2 ISP programmer + USB cable.
- 9V USA compliant wall adapter power supply.
- A/V cable.
- XGS game controller.
- DB9 PC serial port to XGS header converter.
- DVD-ROM with numerous examples and complete driver library Including; Graphics, Sound, Keyboard, SD card, Serial Comms, Mechatronics, and lots more.

TECHNICAL SPECS

The core of the dev kit is the Microchip 16-Bit PIC24 (PIC24HJ256GP206) processor. This processor was chosen since its the top of the line in the Microchip 16-Bit PIC24 line as well as it features the best mix of memory and speed (256K FLASH, 16K SRAM, 40+ MIPS). The XGS PIC 16-Bit throttles the processor to the edge by overclocking to 40+ MHz to support high speed NTSC and VGA signal generation. You can always slow the processor down by using its internal clock and PLL setups. Of course the external oscillator is changeable as well. PAL fans will be happy to know that you can replace the external oscillator with a multiple of 4.43Mhz oscillator as well and create fully compliant PAL video drivers or spin the PLL to a multiple of PAL based on the NTSC oscillator the system comes with. However, PAL fans can also use the VGA drivers until more support for PAL is developed.

The XGS PIC 16-Bit is designed to be an PIC dev kit first and foremost, but the design has been optimized for graphics, sound, and media exploration. The NTSC/PAL signal is generated by software on the PIC, but with "color helper hardware" that generates the complex composite chroma signal. Thus, with our assembly language graphics drivers, you simply write your code in C/C++ and make call to the API and don't worry about it. Its all handled in interrupts. VGA is supported as well with a complete set of drivers, so can write more professional applications that display real-time data and other graphical information. The XGS PIC 16-Bit has a full arsenal of I/O devices and features including:

- Microchip 16-Bit PIC24 processor with 256K FLASH / 16K SRAM running at over 40 MIPS!
- 500mA max power 3.3/5V dual supplies.
- VGA output with 2x2x2 RGB.
- NTSC/PAL with color generation helper hardware (PAL support limited).
- Micro SD card interface.
- Serial port for control and PC interfacing.
- ISP and JTAG programming ports.
- PS/2 keyboard/mouse port.
- Expansion port header exporting numerous I/O, power, and signal lines for experimentation and mechatronic exploration.
- Exported SPI and I2C buses.
- Two game controller ports (Nintendo DB9 compatible).